## What is claimed:

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1. A pneumatic tire (230) having a tread (232), a belt structure (234) and a carcass structure comprising a pair of sidewalls (236a,236b), a pair of bead regions (238a,238b), one or more plies (242) anchored in each bead region (238a,238b), the tire being characterized by:

the pair of bead regions (238a,238b) each including an inextensible annular bead core (244a,244b) and an elastomeric torus (246a,246b) disposed laterally outwardly from and adjacent to each bead core (244a,244b) relative to the equatorial plane of the tire (230); and

the carcass ply (242) having a pair of turnup ends (242a,242b) within the bead regions (238a,238b) that extend radially outward from the carcass ply (242) and under the bead cores (244a,244b) relative to the equatorial plane of the tire (230), the turnup ends continue under an are turned up wrapping around the elastomeric toruses (246a,246b), wrapping around the elastomeric toruses (246a,246b) with the locked end sections (250a,250b) of the carcass ply (242) located radially inward of the bead cores (244a,244b) and anchored between the bead cores (244a,244b) and the carcass plies (242).

- 2. The tire (230) of claim 1 characterized in that the elastomeric toruses (246a,246b) are made of pre-cured rubber.
- 3. The tire (230) of claim 2 characterized in that the elastomeric toruses (246a,246b) are reinforced by fibers of matrerials including glass, Aramid, steel or polyester.
- 4. A method of forming a tire (230) on a tire building drum (452), the bead cores (244a,244b) and the elastomeric toruses (246a,246b) are assembled, the method characterized by the steps of:

placing a carcass ply (242) on the drum (452);

placing the pair of elastomeric toruses (246a,246b) over the carcass ply for their incorporation in the bead regions (238a,238b) of the tire;

folding turnup ends (242a,242b) of the carcass ply (242) back over the elastomeric toruses (246a,246b) so that anchored end sections (250a,250b) are disposed against the turnup ends (242a,242b);

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placing the bead cores (244a,244b) inward of and adjacent to the enfolded elastomeric torus (246a,246b) relative to the center of the building drum (452);

expanding the center section (452c) of the building drum (452) to secure the bead cores (244a,244b) in place; and

inflating the carcass to form the tire.

- 5. The process of claim 4 including the step of providing the tire building drum (452) with grooves (454a,454b) to receive the toruses (246a,246b).
- 6. The process of claim 5 where the center section (452c) of the building drum (452) is expanded after placing the bead cores (244a,244b) on the drum.